REMARKS

Claims 1-18 are pending in the application.

Claim 1 is amended to recite "wherein the container is constructed to have a flat thin-shaped section comprising a top face and a bottom face; wherein the porous body is a sheet arranged on the bottom face of the container". Support can be found, for example, in Figure 1 and page 9, lines 6-13. No new matter is added.

Entry of the Amendment along with reconsideration and review of the claims on the merits are respectfully requested.

Claim Rejection Under 35 U.S.C. § 103

Claims 1-18 are rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Eastman (U.S. Patent No. 4,274,479) in view of Noren (U.S. Patent No. 3,680,189).

The Examiner asserts that Eastman discloses a heat pipe according to Applicants' claimed invention, except for the container being constructed to have a flat thin-shaped section.

The Examiner cites Noren as teaching the use of a heat pipe container being constructed to have a flat thin-shaped section, and states that given the teachings of Noren, it would have been obvious to one of ordinary skill in the art to modify the heat pipe of Eastman with a heat pipe container being constructed to have a flat thin-shaped section. The Examiner states that the motivation for doing so would be to provide an alternate design configuration to accommodate cooling a given electronic heat generating design requirement.

Applicants respond as follows.

As previously discussed, Claim 1 is amended to recite "wherein the container is constructed to have a flat thin-shaped section comprising a top face and a bottom face; wherein the porous body is a sheet arranged on the bottom face of the container". In other words, the porous wick is structurally located on the lower face of the container. Applicants clarify that the wick of the present invention is sheet-shaped, i.e., non-tubular.

The combination of Eastman with Noren fails to render obvious at least the above requirement of the present invention.

Eastman describes a heat pipe capillary wick constructed from a sintered metal cylinder formed in close contact with the inner diameter of the heat pipe casing, and containing longitudinal grooves on the wick's inner surface, adjacent to the vapor space. The grooves provide longitudinal capillary pumping while the high capillary pressure of the sintered wick provides liquid to fill the grooves and assures effective circumferential distribution of liquid in the heat pipe.

Noren's Abstract describes flat heat pipe structures and methods for forming them.

The combination of Eastman and Noren fails to teach each and every element of Applicants' claimed invention under 35 U.S.C. § 103(a).

Eastman's heat pipe embodiments from the figures are structurally circular in form with symmetrically spaced longitudinal grooves in the tubular wick along the length of the heat pipe. Eastman teaches that by leaving a band of porous sintered material around the inner circumference of the outer shell of a container, circumferential distribution of liquid is

automatically accomplished by the capillary pumping action of the pores (see col. 3, lines 37-41). Thus, Eastman teaches tubular wicks.

Although Noren discloses flat heat pipe structures in general, Noren specifically teaches that the internal wick comprises a tubular wire screen member (element 16 in Fig. 1) which extends the length of the tube and has its outer surface closely and tightly in engagement with the interior surface of the tube (see col. 3, lines 63-66). Thus, Noren also teaches tubular wicks.

On the other hand, Applicants claim a heat pipe and container having a flat-thin shaped section. Applicants disclose a heat pipe having a *flat-thin shaped* porous sintered wick arranged on the bottom face of the container in Figure 1 (see also page 9, lines 6-13). According to the heat pipe of the present invention, reflux flow passages on the porous wick promote the refluxing of the liquid phase working fluid to the evaporating part of the heat pipe. Consequently, as shown for example in Figure 3, a dent is created at the top surface of the container in the liquid surface of the liquid phase working fluid opposite each reflux flow passage, and a vapor flow passage(s) is secured therein. Accordingly, the vapor of the working fluid generated by being heated at the evaporating part contacts with the inner face of the container through the vapor flow passage(s) and the radiation of heat is also promoted in this manner, such that the heat transporting characteristics of the heat pipe as a whole are thereby improved (see page 12, lines 5-19).

Furthermore, regarding dependent Claims 6-7, the combination of Eastman and Noren fails to render obvious the subject matter of Claims 6-7 regarding the formation of the reflux flow passage(s) between the porous body and the inner face of the container. Also, neither

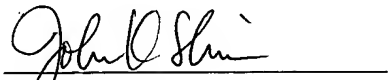
Eastman nor Noren discloses the formula to determine the amount of the working fluid in the heat pipe of Claim 10. Furthermore, Eastman with Noren also does not render obvious Claim 15, regarding the creation of a dent in liquid surface at the portion corresponding to the reflux flow passage to thereby secure a vapor flow passage.

Accordingly, for at least the reasons given above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



John K. Shin
Registration No. 48,409

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860
WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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